HAIR BRUSH

[001] This is a continuation-in-part of patent application serial number 09/451,747 filed on November 30, 1999, now pending. The present invention relates to a hair brush.

Background of the Invention

[002] Conventional hair brushes include an elongated member typically including a handle segment and a bristle segment. Commonly, the bristle segment is a solid, cylindrical shape having a constant diameter throughout its axial length.

[003] There is a need in the marketplace for an anatomically correct hair brush and for a volume-creating hair brush.

Objects of the Invention

[004] It is an object of the present invention to provide an anatomically correct hair brush.

[005] It is another object of the present invention to provide a hair brush suitable to groom humans as well as to groom animals.

[006] It is another object of the present invention to provide a hair brush that has an hourglass shape about its bristle substrate.

[007] It a further object of the present invention to utilize bristles having a substantially equivalent length such that hourglass shape of the substrate is projected radially outward to the outer peripheral edges of the bristles.

[008] It is a further object of the present invention to provide an anatomically correct hair brush which requires less force to pass through the subject's hair.

[009] It is another object of the present invention to provide an anatomically correct hair brush which presents less bristle material in the central mid-region of the brush thereby reducing the force

needed to brush a subject's hair and enhancing the heating and blow drying of that subject's hair.

[010] It is a further object of the present invention to provide a brush with a concave substrate, forming a concave shape bristle edges, on a generally rectangular bristle substrate.

[011] It is an additional object of the present invention to provide an anatomically correct hair brush which enables the user to roll-up more hair on the brush due to the hourglass shape of the bristle substrate.

[012] It is an additional object of the present invention to provide an anatomically correct hair brush wherein the hourglass shape enables a tighter hold on hair wrapped about the hourglass shape bristle system.

[013] It is another object of the present invention to provide an anatomically correct hair brush which, when utilized, creates hair styles with more volume.

[014] It is another object of the present invention to provide a hair brush that has an hourglass shape about its bristle substrate, and that utilizes bristles having lengths such that the outer peripheral edges of the bristles form either a cylinder, an arcuate segment of a cylinder, or a planar surface, and thereby provide a hair brush which, when utilized, creates hair styles with more volume.

[015] It is a further object of the present invention to provide a hair brush with a concave, generally rectangular, bristle substrate, and that utilizes bristles having lengths such that the outer peripheral edges of the bristles form an arcuate segment of a cylinder-shape or a planar surface.

Summary of the Invention

[016] The hair brush includes an elongated member having a handle segment and a bristle substrate segment. The bristle substrate defines a cylindrical core having a smoothly curved, concave central region and radially larger end regions. A plurality of bristles are attached over the

bristle substrate. The bristles have varying lengths such that the outer peripheral portions of the plurality of bristles define a planar surface, an arcuate segment of cylinder, or a complete cylinder. The bristles are distributed throughout the bristle substrate in a predetermined pattern. The bristles are disposed over the peripheral surface of the bristle substrate in one of two manners. In one embodiment the bristles are individually disposed on the bristle substrate in a series. In another embodiment, the bristles are segmented into groups of small bundles and these bundles are disposed on the bristle substrate in a series. In both embodiments, each series of individual bristles or bristle bundles are axially spaced apart in a common radial plane passing through the axial center line of the brush. A rectangular bristle substrate is also disclosed. The outer peripheral portions of the plurality of bristles for the rectangular substrate embodiment form either an arcuate segment of a cylindrical shape or a planar surface.

Brief Description of the Drawings

[017] Further objects and advantages of the present invention can be found in the detailed description of the preferred embodiments when taken in conjunction with the accompanying drawings in which:

[018] FIG. 1 diagrammatically illustrates a perspective view of the hair brush;

[019] FIG. 2 diagrammatically illustrates a side view of the hair brush;

[020] FIG. 3 diagrammatically illustrates the hair brush particularly the hourglass shape or smoothly curved concave central portion of the bristle segment substrate;

[021] FIG. 4 diagrammatically illustrates a side view of a rectangular bristle substrate with a concave central region;

[022] FIG. 5 illustrates an end view of the brush of FIGS. 4 and 7;

[023] FIG. 6 diagrammatically illustrates a side view of the hair brush with bristle ends terminating in a cylindrical shape;

[024] FIG. 7 diagrammatically illustrates a side view of a hair brush with a rectangular bristle substrate with a concave central region and with bristle ends terminating in a defined shape; and

[025] FIG. 8 diagrammatically illustrates an end view of the brush.

[026] FIG. 9 diagrammatically illustrates a partial end view of the brush.

Detailed Description of the Preferred Embodiments

[027] The present invention relates to a hair brush. It should be understood that the hair brush described herein is suitable for use on humans, pets and other animals with hair such as horses.

[028] FIG. 1 diagrammatically shows a perspective view of hair brush 12. FIG. 2 diagrammatically illustrates a side view of the hair brush and FIG. 3 diagrammatically illustrates a schematic of the hair brush particularly showing the hourglass shape of bristle substrate segment 14. The figures are discussed concurrently herein. Similar reference numbers are utilized in all the figures. Brush 12 includes handle segment 13 and bristle substrate segment 14. As best shown in FIG. 3, bristle substrate 14 has a generally cylindrical core segment with a smoothly curved concave central region 16 and radially larger end regions 18, 20. Bristle substrate 14 carries a plurality of bristles 25 on its peripheral surface.

[029] The plurality of bristles 25 are grouped together in small bundles, one of which is identified as bristle bundle 27 in FIG. 1. A sub-plurality of bundles are axially aligned in a row such as row 29 shown in FIG. 1. Bristle row 29 is linear such that all bundles in the row of bristles are disposed in a common radial plane extending through the axial centerline of the core. See bristle row 31 in FIGS. 2 and 6. Alternatively, the bristles are individually disposed on the bristle substrate 14 (e.g.

FIG. 9). Further, the bristle rows are circumferentially distributed about the peripheral surface of bristle substrate 14. This circumferential or angular offset between adjacent radial rows of bristles reduces the force necessary to pass the brush through the subject's hair, enables faster drying of the hair with a blow dryer and requires less heat to blow-dry the hair. Further, the hourglass shape of concave central region 16 (FIG. 3) enables faster blow drying time, less heat and less effort to brush the subject's hair. The brush also gives the hair style more volume. The angular offset between radial rows also enhances massaging of the scalp during a brushing session.

[030] Hair brush 12 is anatomically configured such that the hourglass shape of curved concave central region 16 (FIG. 3) generally matches curves on the subject's head.

[031] Handle segment 13 has a continuously curved convex region 40 and radially smaller end regions 42, 44.

[032] In FIGS. 1 through 4, the bristles have substantially equivalent lengths 46 (see FIG. 3) such that the outer periphery of a row of bristles defines a smooth curved concave shape about central region 50 that is complementary the hourglass shape 16 of bristle substrate 14.

[033] In FIGS. 6, 7 and 8 the bristles have varying, predetermined lengths such that the outer periphery of a row of bristles defines a substantially straight line (see FIGS. 6 and 7, region 72, and FIG. 8, region 82). In FIGS. 6, 7,8 and 9 the outer periphery or the terminal ends of all the bristles define a cylinder (FIG. 6) or a predetermined arcuate segment of a cylinder (FIGS. 7 and 9) or a plane (FIG. 8). In FIG. 6, hair brush 12 has rows of bristles (e.g. row 31) circumferentially disposed about bristle substrate 14 and the length l of the bristle varies over the longitudinal span of substrate 14 such that the outer periphery or the terminal ends 91 of the bristles define a cylinder. Bristles in the deeper section of concave shape 14 are longer than bristles at the ends of bristle row 31. In FIG.

8, hair brush 12 has rows of bristles disposed about bristle substrate 14 such that the outer periphery or terminal ends of the bristles define a planar surface (see region 82). In FIG. 6, bristles 25 are of predetermined varying lengths such that bristles at concave central region 74 are longer than bristles at regions 18, 20. Because the bristles at concave central region 74 are longer, those bristles penetrate further into the subject's hair, permitting a hair dresser to create hair styles with more volume.

[034] FIGS. 4 and 7 diagrammatically illustrate hair brush 12 with an elongated, generally rectangular member 43. A cross-sectional aspect of member 43, from the perspective of section line 80'-80," is generally rectangular in shape. Handle 78 is shown in FIGS. 4 and 7. In FIGS. 4 and 7, handle 78 is shown with handle surface 77 substantially, longitudinally aligned with bristle substrate end regions 18 and 20. The generally rectangular cross-sectional shape of member 43 is carried forward to core segment 70 which is part of the bristle substrate segment. FIGS. 5 and 8 show the end as a rectangular shape. FIG. 5 diagrammatically illustrates an axial perspective of the outer periphery of the rows of bristles defining an arcuate segment of a cylinder. FIG. 8 diagrammatically illustrates an axial perspective of the brush wherein the outer periphery or the terminal ends of bristles in the bristle row define a planar surface 82. FIGS. 5 and 8 show the angular offset between the rows of bristles.

[035] In FIGS. 4 and 7, brush 12 includes handle segment 78 and a bristle substrate segment extending over region 72. Bristles 25 protrude upward from the smoothly curved concave central region 74 of the elongated, rectangular shape of bristle substrate segment 72. In FIG. 4, concave central region 74 and bristles 25 create a concave plurality of bristle ends at region 76. In FIG. 7, bristles 25 are of predetermined varying lengths l such that bristles at concave central region 74 are

longer than bristles at bristle substrate end regions 18, 20. Similar to the central bristles in FIG. 6, the bristles of brush 12 in FIG. 7 at concave central region 74 penetrate further into the subject's hair, permitting a hair dresser to create hair styles with more volume. In both FIGS. 4 and 7, bristles 25 are angularly disposed on the bristle substrate. The angular offset of bristles 25 in linear rows is shown in FIGS. 5 and 8.

[036] In FIG. 9, each bristle 28 is individually disposed on the bristle substrate surface 26 such that the terminal ends or outer periphery of all the bristle ends 91 define a predetermined arcuate segment of a cylinder. Individual bristles, rather than bundles of bristles, may be utilized in connection with both the cylindrical core embodiment (FIG. 3) and the rectangular core embodiment (FIGS. 4 and 7).

[037] The brush may be made of wood, plastic, aluminum or other material. Any combination of those elements can be utilized in the brush. The brush can be manufactured with different lengths and in different colors.

[038] The claims appended hereto are meant to cover modifications and changes within the scope and spirit of the present invention.

[039] What is claimed is: